Research Report

Substance Use Among Manitoba High School Students

October 2001

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Substance Use Among Manitoba High School Students

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Addictions Foundation of Manitoba

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Addictions Foundation of Manitoba

The Addictions Foundation of Manitoba is responsible for providing rehabilitation and prevention services for Manitoba citizens relating to substance abuse and problem gambling. The aim of our research program is to better inform rehabilitation practice, public education and health policy. Research fostered by the foundation contributes to a better understanding of how individuals, families and communities can most effectively respond to harm associated with substance abuse and problem gambling.

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Executive Summary

The mandate of the Addictions Foundation of Manitoba (AFM) includes informing the public and policy makers about the use of potentially harmful substances. In an effort to provide services that are designed to meet the needs of specific populations, the AFM conducts research into patterns of substance use and abuse. This report provides a preliminary overview of findings from our 2001 survey of students sampled from a cross-section of Manitoba high schools.

Student Problems

- Consistent with earlier surveys, over half the students considered alcohol and drug use to be a major problem at their school. Failing at school was the only other area perceived by students as a comparable threat.
- About 6% of students report having had moderate or serious problems with the use of alcohol. Similarly, 6% report having had moderate or serious problems with the use of other drugs.
- About 15% of students report having experienced moderate or serious problems as a result of family members using alcohol. Nine percent have experienced such problems as a result of family members using other drugs.

Smoking Tobacco

- Smoking has decreased among students (47% in 1997 to 40% in 2001). The rate for students is still much higher than the rate for Manitoba adults (approximately 25%).
- Female students are more likely to have ever tried smoking. Male students smoke more, with approximately 23% of male smokers having more than 60 cigarettes in a week.

Drinking Alcohol

- About 81% of the high school students drank alcohol in the past year, an increase of about 2% since 1997. This rate is identical to the one estimated for Manitoba adults overall.
- About 33% of male students and 20% of female students report drinking about once a week or more. The rate of drinking increases as students move up grade levels.

Use of Other Drugs

- The use of drugs other than alcohol or tobacco has increased slightly. In 1995 about 37% of students reported using such drugs in the past year. The comparable figure for 2001 was approximately 40%.
- The drug used most often is cannabis, with 38% of students reporting cannabis use in the past year. Close to 20% of males and 11% of females using cannabis products more than once a month.

- No other illicit drug, except psilocybin (magic mushrooms) was used in the last year by more than 5% of the students. Cocaine and ecstasy use is still not common, with less than 5% reporting use in the past year.

Locations of Substance Use

- Students most frequently use alcohol or other drugs at parties and at their friends' homes.
- Of those students who drink, 30% do so in cars and about 15% report drinking at school during regular school hours.
- Of those students who use other drugs, 58% do so in cars and 48% report using them at school during regular school hours.

Student Attitudes

- For the most part, students do not condone drinking and driving, but they are less concerned about using cannabis and driving. About 26% of male students and 13% of females felt it was acceptable to use cannabis and drive.
- Attitudinal changes appear in the data since 1997. There is increased acceptance of both alcohol and drug use by high school students, as long as one is 'in control of the use.'

Conclusions

- Overall, these findings are consistent with those from research conducted in other jurisdictions. Tobacco, alcohol and other drug use are realities in the day-to-day lives of high school students.
- In general, the findings point to the need for an expansion of substance abuse prevention efforts earlier in the lives of youth.
- While at the same time, a concerted effort is needed to ensure intervention programs are available to all high school students in the province.
- There is also a specific need to educate young people more effectively about the risks associated with **impaired driving**, regardless of the specific substance used. The risk of being involved in an accident while 'high' is comparable to the risk resulting from being 'drunk.'

Introduction

The mandate of the Addictions Foundation of Manitoba (AFM) includes informing the public and policy makers about the use of potentially harmful substances. In an effort to provide services that are designed to meet the needs of specific populations, the AFM conducts research into patterns of substance use and abuse. This report provides a preliminary overview of findings from our 2001 survey of students sampled from a cross-section of Manitoba high schools.

The research described here builds on a history of previous studies. In 1988 AFM developed a pilot project designed to provide assessment, early intervention, and prevention education to students in five Manitoba secondary schools. The results of that study suggested the need for similar, province-wide youth intervention services.

In 1993 the Rural and Northern Youth Intervention Strategy (RNYIS) was developed as a three-year demonstration project, with 18 high schools participating. Baseline measures of alcohol and drug use were taken at that time. In 1995, in the third year of the RNYIS project, similar measures were taken. In 1997 a replication of the 1995 student survey was undertaken. In 1997 five Winnipeg schools were added.

The present report not only continues the effort of tracking student alcohol and drug use, but also attitudes towards alcohol and drugs. Nine new schools were added for the 2001 survey, giving a total of 32 schools. Overall, these schools represent a cross section of Manitoba schools, including students from Winnipeg, Brandon, Thompson, and a number of rural schools.

School administrators have been provided with findings specific to their school that will be useful for planning. AFM will use the overall findings to further develop prevention, education and intervention programs, targeted at the areas of highest need.

Methodology

The attitudes and behaviours described in this report were measured using a survey developed by the AFM and Proactive Information Services Inc. The data were collected in a manner that would allow us to make valid comparisons with the previous surveys. However, some questions were added to gather additional information on gambling and risk perception. As a result, some previously asked questions were omitted in order to keep the survey at a reasonable length.

Description of the Sample

Thirty-two schools participated in the survey as a result of their involvement or interest in AFM programs. The list of schools included 24 that were involved in the RNYIS project and 8 schools that had not been RNYIS participants. Altogether approximately 14,000 students attend these schools.

Five Winnipeg schools participated, all of which had been in the 1997 survey. Seventeen of the 27 rural schools that participated in the 1997 survey were included in the 2001 survey; two rural schools from the previous survey did not participate at this time. Table 1 gives a regional breakdown of the schools and the sample of 4,680 students.

Table 1
Regional distribution of the sample

Region	Schools	Sample Students	Percent
Winnipeg	5	823	17.6
Brandon	3	499	10.7
Thompson	1	220	4.7
Rural Areas	23	3138	67.0
Total	32	4680	100.0

Packages with instructions for principals and teachers, and the required numbers of questionnaires for each student were mailed to participating schools in April 2001. This approximates the timing during the school year of the previous surveys. Of the 6,650 questionnaires that were sent, a total of 4,680 completed questionnaires were returned. This represents a response rate of 70.4%.

The sample was stratified by grade level, and the sample size was determined by the intention of reaching a 95% confidence level with a margin of error of $\pm$ 5% for each school. However, in small schools the total population was sampled, since the required sample would almost reach this number. For all the schools combined, as described in this report, we have 99% confidence that the data are accurate with a margin of error of $\pm$ 1%.

Sample Profile

The demographic characteristics of the sample are presented in Table 2. The sample is 49.5% female, and 50.5% male. The average age is 16.7 years. A breakdown of the number of students' usual marks and the number of days of school missed by each student in the last year is also presented in Table 2. Females were more likely to have missed more days of school; males were more likely to have lower marks.

Table 2
Demographic characteristics of the sample by gender

	Males (N = 2354)	Females (N = 2311)	Total (N = 4680)
Mean Age	16.8 yrs	16.7 yrs	16.7 yrs
Grade Level (%)			
Senior 1	25.0	24.1	24.6
Senior 2	26.5	25.1	25.8
Senior 3	24.9	23.8	24.3
Senior 4	22.9	26.4	24.7
Student's Usual Grade (%)			
A	24.7	38.3	31.4
B	30.2	32.0	31.1
C	28.1	20.5	24.3
D	14.6	7.9	11.3
F	2.4	1.3	1.9
Number of days missed (%)			
None	5.8	3.2	4.5
1 – 5	41.0	40.1	40.5
6 – 10	27.3	29.2	28.2
11 or more	25.9	27.4	26.7
How long student has attended this school (%)			
Less than 6 months	3.1	2.7	2.9
Six months to one year	23.4	22.3	22.9
More than one year	73.5	75.1	74.2

Note: Fifteen students did not report their gender.

Strictly speaking, the 32 schools in this study were not randomly selected from the total set of high schools in Manitoba. However, the students attending these schools appear to represent a cross-section of high school students across the province. The one notable exception is that the Winnipeg school population is under-estimated. However, this did not result in under-estimations of the prevalence for those substances that were examined in this study.

Student Concerns

In previous years students were asked to identify problems that they faced at school. The question specifically asks them to identify the three biggest problems facing students in their school.

What types of problems do high school students face?

The percentages of students identifying particular problems are shown on Table 3. Clearly alcohol and drug use is perceived to be a major problem faced by students, and this is consistent with previous surveys. Only "failing at school" poses a similar threat to students. In all of the previous surveys both of these items are endorsed by over twice as many students as any other item.

Table 3
Problems faced by students in percent.

Problem	2001
Failing at school	59.1
Alcohol and drug use	58.6
Teacher or parent pressure	26.6
Conflicts with family	21.9
Bullying	19.5
Unwanted pregnancy	17.8
Too much pressure by friends	15.4
Discrimination/racism	12.6
Eating Disorders	10.9
Fear of physical violence	10.6
Gang activity	7.2
No serious problems	7.2
Suicide	7.0
Other STDs	4.7
Sexual Abuse	4.1
Physical Abuse	3.9
Other	3.9
AIDS	3.8
Poverty	3.8
Gambling	1.8

Students were also specifically asked about their own experiences with alcohol and other drugs. About 6% of students report having had moderate or serious problems from their own use of alcohol. Similarly, 6% report having had such problems with the use of other drugs.

Students also reported on problems for them resulting from family members using substances. About 15% of students have experienced moderate or serious problems as a result of family members using alcohol. About 6% of students have experienced moderate or serious problems as a result of family members using other drugs.

Smoking

Although the AFM does not yet offer smoking cessation programs, the health and financial consequences of smoking on young people are significant enough that utilization needs to be tracked. Smoking often becomes a strong addiction that begins early in life, and according to some literature nicotine is considered a 'gateway' drug that precedes and may increase risk for other drug use. Furthermore, tracking prevalence and frequency of cigarette smoking was a specific recommendation from the previous high school survey report in 1997.

How many students are smoking?

Over half of the students surveyed had smoked at some point in their lives, with females more likely to smoke than males (60% vs. 54%). Thirty-nine percent of males and 41% of females smoked in the past year. Smoking rates increase as one gets older. Slightly over 43% of all Senior 4 students smoked in the past year, compared with 34% of Senior 1 students.

Table 4
Percent of students smoking by grade

	Senior 1	Senior 2	Senior 3	Senior 4	Total
Ever smoked	49.6	57.2	59.3	62.0	57.7
Smoked in the past year (% of those who ever smoked)	68.4	70.6	69.1	70.4	69.7
Smoked in the past year (% of all students)	34.0	40.4	40.9	43.4	39.5
Mean age began smoking	12.3 yrs	12.9 yrs	13.3 yrs	13.8 yrs	13.2 yrs

The average age that students start smoking is 13.2 years, and there is no difference between males and females in terms of when they started smoking. On the other hand, there is a difference across school grades. Students in Senior 1 start smoking at an earlier age than students in Senior 4. This type of pattern (older students reporting later ages at which they began drinking or using drugs) has been observed elsewhere and is likely due to the fact that younger students can only report their own age or younger, older students having a wider range of ages from which to choose.

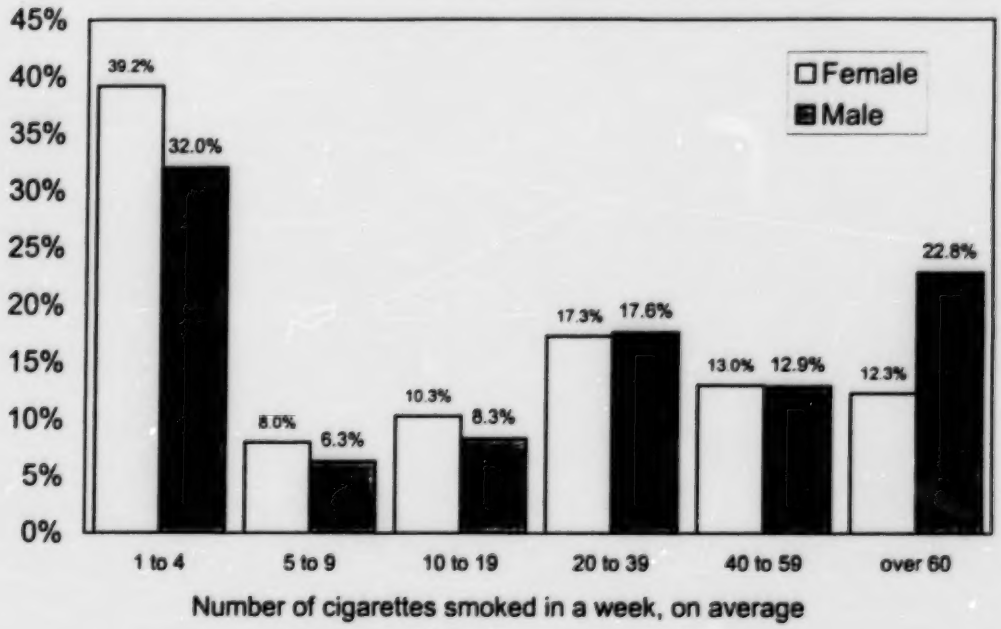
How much do high school students smoke?

Some of the good news is that most high school smokers (52%) smoke less than 20 cigarettes in a week. Unfortunately, approximately 18% smoke more than 60 cigarettes in a week. Most of the Senior 1 students who smoke, smoke less than 10 cigarettes per week;

however, over 20% of the Senior 3 and Senior 4 students who smoke are usually smoking more than 60 cigarettes per week.

There is also a gender difference in the amount that students smoke. Figure 1 shows the number of cigarettes smoked by males and females in an average week. Heavier smokers are more likely to be males than females. For example, 22.8% of males usually smoke more than 60 cigarettes per week, whereas 12.3% of females smoke this amount. Almost 40% of females usually smoke less than five cigarettes per week, on average, compared to slightly over 30% of males.

Figure 1
Usual number of cigarettes smoked weekly by gender



Note: Non-smokers are excluded from this analysis. Therefore, the percentages represent the **percent of smokers only,** not **the percent of all students.**

Alcohol Use

Students were asked if they had ever used alcohol. 87.4% reported that they had used alcohol at some point in their life. There are no differences between males and females. However, there are some expected differences across grades. Students in the more senior grades are more likely to have ever had a drink of alcohol. Of course, this occurs because they are older and are more likely to have been exposed to opportunities to drink. Of the students who had ever had a drink, 92.2% had used alcohol in the past year (80.4% of all of the students surveyed), and this percent is higher in the higher grades. For example, 96.3% of the Senior 4 students drank in the past year, whereas 87.8% of the Senior 1 students drank alcohol in that time frame.

Table 5
Use of alcohol by high school students

	Total
Ever use alcohol (%)	87.4
Drank in past year (%)	80.4
Mean age at first drink	13.3 yrs.
Frequency of drinking (% of those who drank in the past year)	
A few times a year	28.0
About once a month	21.0
2 or 3 times a month	24.9
About once a week	15.6
More than once a week	10.4

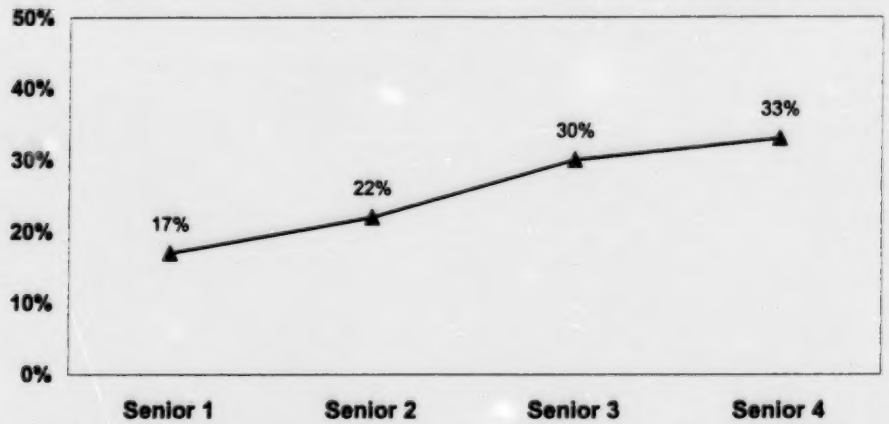
How old are students when they start drinking?

Students begin drinking at quite an early age. The average age of first use of alcohol is 13.3 years of age. There are no major differences between males and females in this regard. However, the older students reported beginning to drink at a later age than the younger grades (e.g., 14.4 years for the Senior 4 students, compared with 12.5 years for the Senior 1 students). The explanation for the grade differences in the age of onset of smoking applies here; that is, the older students have a wider range of ages from which to select. The average age at which students begin drinking has remained relatively constant since 1997 when it was 13.5 years.

How often do students drink?

We asked the students who had used alcohol in the past year how often they use it. About 26% report that they are drinking once a week or more, and 72% are drinking at least monthly. The frequency of drinking is higher in the higher grades. About 38.8% of Senior 1 students who drank in the past year (27% of all Senior 1 students in the survey) drink only a **few times per year**, whereas only 21.5% of Senior 4 students (19% of all the Senior 4 students) drink this infrequently. Figure 2 shows that 17% of the Senior 1 students who drank in the past year drink more than once a week, whereas 33% of Senior 4 students drink at this rate.

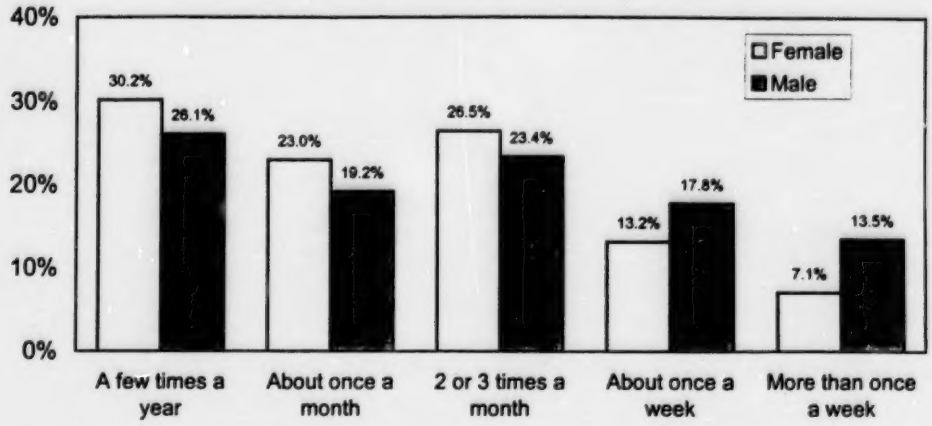
Figure 2
Percent of students who drink once a week or more, by grade



Note: These percentages represent the percent of student who drank in the past year, **not** the percent of all students.

Gender differences in the frequency of drinking patterns emerge, with males drinking more often. For example, 13.5% of the males who drank in the past year report drinking more than once a week, compared with 7.1% for females. About 12% fewer males than females report drinking 2 or 3 times a month or less. The overall pattern is shown on Figure 3.

Figure 3
Frequency of alcohol use by gender



Note: These percentages represent the percent of students who drank in the past year, **not** the percent of all students.

Where are students drinking?

We were also interested in where students reported using alcohol. The percentages reported in Table 6 are reported as a percent of students who ever used alcohol, those who drank in the past year, and as a percent of all students.

Table 6
Location of alcohol use, in percent

Location	As percent of those who drank in the past year	Total As a percent of those who ever drank	As a percent of all students
Parties	81.0	74.0	64.0
Friend's House	78.1	71.4	61.7
Socials	56.3	51.5	44.5
Parent's/guardian's	50.8	46.5	40.2
Brother's/sister's	40.7	37.2	32.2
Bars	30.9	28.2	24.4
Cars	30.5	27.9	24.2
At school	15.9	14.6	12.6
Alone	19.3	17.6	15.2

The most common locations for drinking alcohol for those who drank in the past year were at parties and at friends' houses. These sites were endorsed by approximately 80% of male and female students who drank in the past year. Socials were another popular location, with about 56% of males and females drinking there. Approximately 50% drank at their parent's or guardian's home. For all of the other locations listed in Table 6, males were more likely to report drinking than females. Therefore, males were more likely than females to drink at their brother or sister's house, in cars, bars, at school or alone. The fact that over 30% of male students drink in cars is disturbing, assuming that the driver may also be involved in this activity. Also of concern is the fact that almost 20% of the students who drink report drinking alone.

Other Drug Use

In this section we describe the patterns of use for drugs other than tobacco and alcohol. For the sake of simplicity, we will refer to these substances as 'drugs'. These include licit substances (such as over the counter drugs and inhalants) as well as illicit substances that are restricted under the criminal code.

Teenagers have access to a wide variety of drugs in addition to tobacco and alcohol. A brief description of common drugs and their effects is found in Appendix A. Over 4,600 students provided usable information about their use of these drugs. Over 47% of the total sample told us that they had used drugs at some point in their lives, and 83.8% of these had used them in the past year. In other words, 39.7% of the high school students surveyed reported taking drugs in the past year. These data are provided separately for males and females in Table 7.

A higher proportion of males (50.1%) than females (45.3%) had ever used drugs, and males are more likely to have used drugs in the past year than females (42.6% of the males compared with 37.6% of the female students sampled). Furthermore, males are more likely to start using drugs at a younger age than females, and are more likely to use a wider variety of drugs than females.

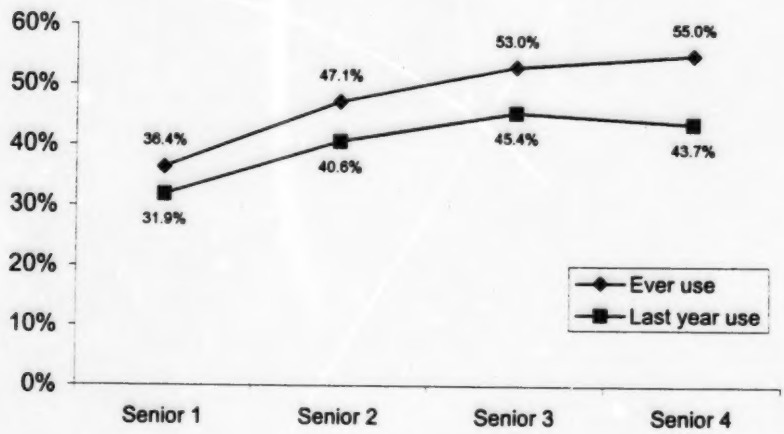
Table 7
Other drug use by gender

	Males	Females	Total
Ever used drugs (%)	50.1	45.3	47.7
Used drugs in past year (%)	42.6	37.6	39.7
Mean age at first drug use	14.0 yrs	14.2 yrs	14.1 yrs

Are there drug use differences across grades?

The percent of students in each grade using drugs at some point in their lives and within the past 12 months is shown on Figure 4. Current use (past 12 months) increases over the first two years of high school, especially from Senior 1 to Senior 2, and then tends to level off in the last two years. The older students in Senior 4 were more likely to have used drugs at some point in their lives than younger students in Senior 1 (55.0% vs. 36.4%).

Figure 4
Percent of students using other drugs, by grade



How old are students when they start taking drugs?

In 2001 the average age at which students started to use drugs was 14.1 years. The average age of first drug use reported in 1997 was 14.3 years. There may be a trend towards starting to use drugs at an earlier age and this should be monitored closely.

How much is cannabis being used?

After alcohol and tobacco, by far the most common drug used by Manitoba high school-aged students is cannabis. Almost all of the students who used other illicit substances in the past year (96%) reported the use of cannabis products (e.g., marijuana, hashish and hashish oil). This represents 37.9% of the total sample of students.

Consistent gender differences in cannabis use emerge. Males are more likely to have used cannabis in the past year than females (40.4% vs. 35.4%). Similarly, when we look at the frequency of cannabis use (see Table 8), males tend to use cannabis more often, with slightly over 20% of all male students using it more than once a month, compared to about 11% of females.

Table 8
Frequency of cannabis use by gender

	Percent of sample		
	Males	Females	Total
A few times a year (%)	11.5	13.2	12.4
About once a month (%)	7.3	9.8	8.5
More than once a month (%)	20.5	11.2	15.8

What other types of drugs are students using?

There is a wide range of other drug use reported. The students also told us how often they used each these substances. The only other drug that had been used by more than 10% of students was psilocybin (magic mushrooms). Psilocybin had been used by 39% of the students who had ever used drugs (15.1% of the total sample). This is a slight increase from previous surveys, where 13.6% of all students had used psilocybin in 1997 and 14.3% reported using psilocybin in 1993. This trend is consistent with data reported in the Monitoring the Future document, which tracks high school student drug use in the United States.

As with almost all of the drugs reported in this survey, males were more likely to use psilocybin than females (18.2% vs. 12%). The number of males and females using the various drugs is shown on Table 9, along with the percent of the total high school students that this represents.

Table 9
Percent of students using various drugs in the past year

Drug	Males	Females	Percent of total sample
Alcohol	80.7	80.2	80.4
Tobacco	36.5	42.7	39.5
Marijuana	40.4	35.4	37.9
Psilocybin	18.2	12.0	15.1
Powder Cocaine	6.5	2.6	4.5
Ecstasy	5.5	3.1	4.3
LSD	5.4	2.2	3.8
Stimulants	4.5	2.5	3.5
Crack cocaine	5.1	1.5	3.3
Methamphetamine	3.8	1.5	2.7
Inhalants	3.1	1.4	2.3
Other club drugs	2.2	0.8	1.5

Powder cocaine was used by 4.5% of the sample, ecstasy was used by 4.3%, and other 'club drugs' (GHB, Rohypnol, Ketamine, 'roofies'). Hallucinogenics (LSD) were used by only 1.5% of the students. Stimulants, Methamphetamine, crack cocaine and inhalants (solvents, gas and glue) were all used by less than 4% of the student population. As can be seen in Table 9, males were more likely to use any type of drug, with the exception of tobacco.

Where are students likely to use drugs?

The locations where students used these drugs were also identified. These are shown on Table 10. The percentages of students using various substances are shown on Table 10. The most common places where students used drugs other than alcohol were at parties (81% of current users), and at "friend's houses" (79% of current users). Notably, there also seems to be significant drug use in cars (although not necessarily while driving), with 58% of current drug users reporting this location. As with alcohol, males are more likely to report use in cars than females. Finally, almost half of the students who currently use drugs report using them at school during regular school hours.

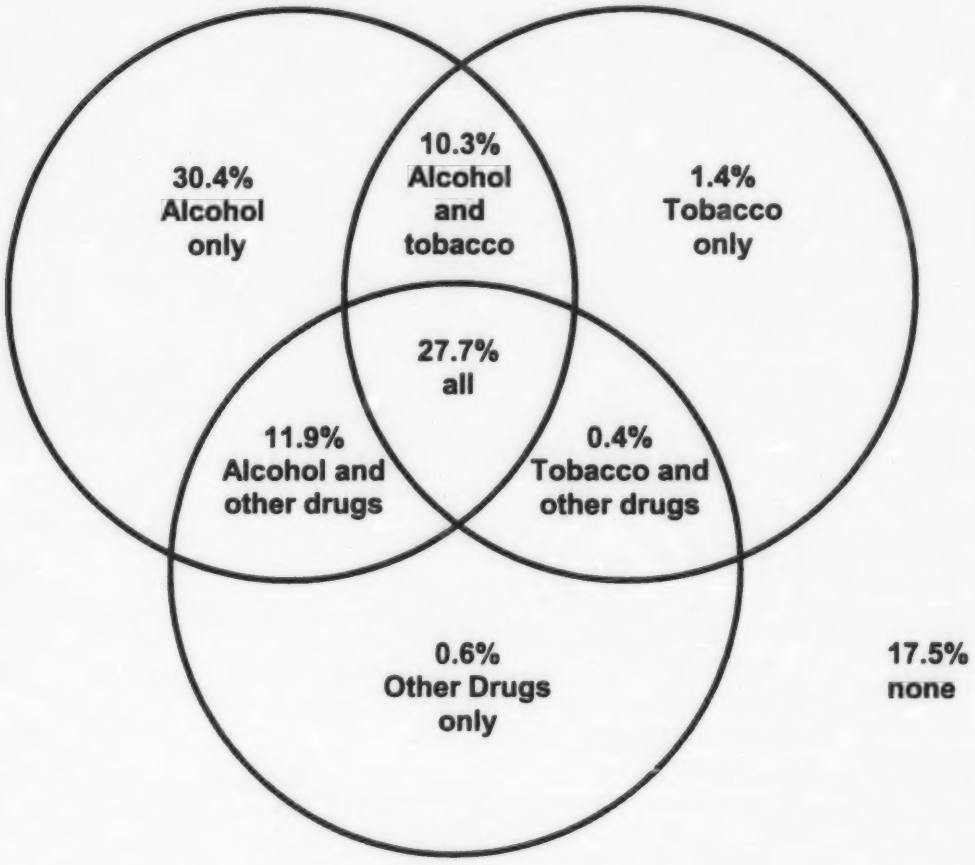
Table 10
Location of student drug use (%)

Location	Total		
	As percent of all current drug users	As a percent of lifetime drug users	As a percent of the total sample
Parties	**80.8**	68.0	32.1
Friend's	**78.9**	66.4	31.3
Socials	37.8	31.8	15.0
Parent's/guardian's	10.2	8.6	4.1
Brother's/sister's	32.0	26.9	12.7
Bars	18.6	15.7	7.4
Cars	**57.7**	48.6	22.9
At school	**48.0**	40.4	19.1
Alone	32.0	27.0	12.7

How many students have used tobacco, alcohol and other drugs in the past year?

The percent of male and female students who reported using drugs and alcohol and tobacco during the past 12 months is shown on Figure 5. The largest single subset (30%) included those students who had used only alcohol. Only a very few students (0.6% of the sample) have used only other drugs. About 28% had used all three types of substances. Fewer than 20% have used no substances.

Figure 5
Use of alcohol, tobacco and other drugs in the past year



Trends in substance use

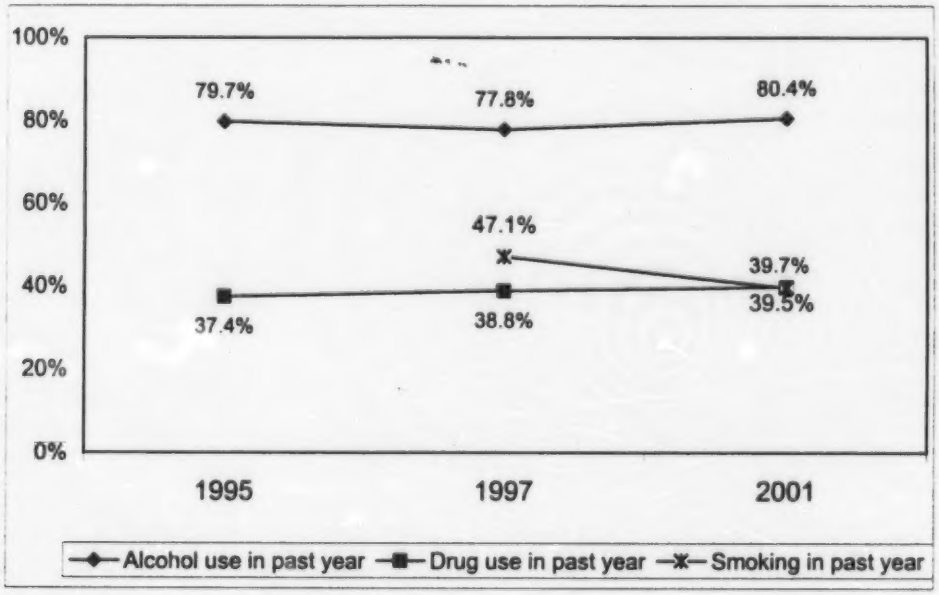
Has the use of substances changed over time?

Although the exact wording of the questions may differ slightly from year to year, we are able to roughly compare student use of drugs across the different surveys (Figure 6). In 1995, 37.4% of students reported that they had used drugs other than alcohol in the past year. This percentage increased to 38.8% in 1997. In the present survey the figure is 39.7%.

Alcohol use has remained relatively constant since 1995, although there has been an increase in the percentage of female students who drink more than once a week (7.1% in 2001, compared with 5.6% in 1997 – see Figure 8). Drinking frequencies for the three surveys are shown on Table 11.

The percent of students smoking in the past year shows a substantial decrease since 1997, from 47.1% of the students smoking, to 39.5% of students smoking.

Figure 6
Percent of students using substances in the past year (1995, 1997, 2001)



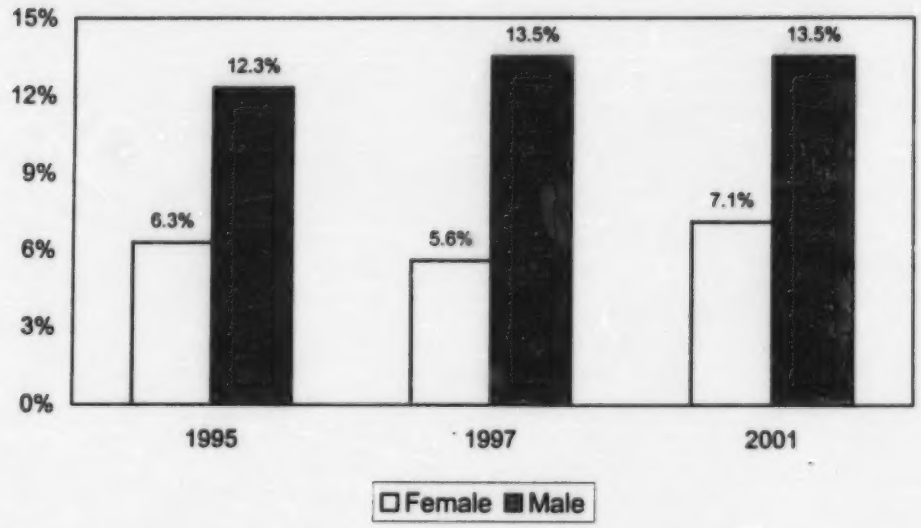
Note: Questions about smoking were not asked in the 1995 survey.

Table 11
Frequency of drinking (1995, 1997, 2001)

	1995	1997	2001
Frequency of Drinking (%)			
A few times a year	32.9	29.1	28.1
About once a month	20.1	21.3	21.1
2 or 3 times a month	23.9	25.6	25.0
About once a week	13.8	14.3	15.5
More than once a week	9.3	9.7	10.4

Note: The rates of alcohol use should be compared with caution, since the data were collected on a slightly different set of schools.

Figure 7
Changes in heavy drinking (1995, 1997, 2001), percent of males and females drinking more than once a week



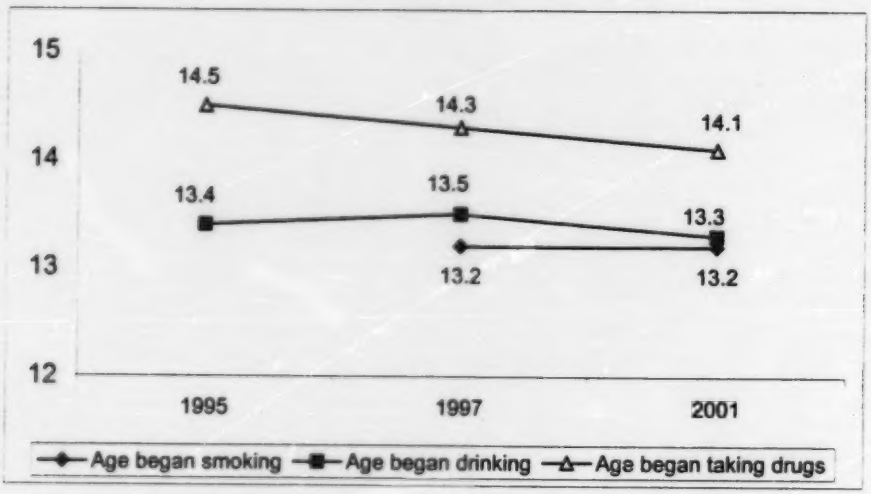
Have there been any changes in when students begin to use drugs?

If students smoke tobacco, they typically start before they would begin to use alcohol or other substances. The age at which they start using tobacco has remained about the same since 1997, at just over 13 years on average.

The age at which students begin drinking alcohol, if they ever start, has remained relatively constant over the past four years at around 13.5 years of age on average.

Students who go on to experiment with other drugs begin on average at around 14 years of age. However, there has been a trend over the past six years towards earlier ages at which they begin using drugs. These data are shown on Figure 8.

Figure 8
Age at which students begin substance use



Comparisons with other jurisdictions

To help provide a perspective the rates of use for various substances by high school students we compared the Manitoba rates with rates reported from the 1999 Ontario Student Drug Use Survey. For the high school grades, Manitoba and Ontario students appear to have very similar levels of use with respect to tobacco, alcohol and cannabis. The reported prevalence of some of the other illicit substances is somewhat higher in Ontario. Differences in this regard may be due to the higher urban population in Ontario and the under-representation of urban schools in our sample. Moreover, these comparisons should be seen as tentative, as there are a variety of methodological and sampling differences between surveys.

Student Attitudes towards Alcohol and Drugs

Students were also asked how much they agreed or disagreed with a number of attitudinal statements about alcohol and drugs. For simplicity of presentation the percentage of males and females that either *agreed* **or** *strongly agreed* with each statement are presented on Table 12.

The attitudinal items are presented so that those agreed with **the least** are at the top of the table. It is somewhat comforting to note that high school students in general have a strong negative attitude towards drinking and driving, with only 4.4% of the students agreeing that it is acceptable to drink and drive. It should be noted, however, that 7.5% of the males report that it is alright to drink and drive.

For all statements male and female attitudes differed. In general, males are more likely to agree with statements that reflect more positive attitudes towards alcohol or drug use. For example, males are more than twice as likely than females to think that it is acceptable to use cannabis and drive (25.7% compared with 12.6% for females).

There are a variety of other gender differences regarding attitudes towards substance use. Male attitudes towards drugs (including alcohol) are more likely to be influenced by their peers than female attitudes. Males were also much more likely than females to think that using drugs (including alcohol) is acceptable, as long as one is "in control of the use".

Most of the attitudinal items in Table 12 were also asked in the 1997 survey. Certain attitudinal shifts have occurred since 1997. For example, religion has less of an influence on decisions about alcohol and drugs. Students also report a **greater** influence of parents, and for males only, there is a reduced influence of friends in the more current survey. There is also increased acceptance of both alcohol and drug use by both males and females, as long as one is in control of the use.

Table 12
Percent of students agreeing with statements about the use alcohol and other drugs

Statement	Males	Females	Total
There's nothing wrong with drinking and driving	7.5	1.3	4.4
My decisions about using alcohol/drugs are influenced by my religion	14.8	15.7	15.2
I am afraid to use alcohol because I might get caught	15.8	15.2	15.5
There's nothing wrong with using cannabis products (marijuana, hashish, hashish oil) and driving	25.7	12.6	19.2
My decisions about using drugs (other than alcohol) are influenced by my friends	26.9	20.7	23.8
People should NOT use alcohol or other drugs under any circumstances	26.7	29.5	28.1
I am afraid to use alcohol/drugs because I might get hooked	30.5	31.3	30.9
I am afraid to use drugs (other than alcohol) because I might get caught	32.2	33.8	33.0
My decisions about using alcohol are influenced by my friends	36.2	31.9	34.1
My decisions about using alcohol/drugs are influenced by my parents.	42.8	44.2	43.5
My friends are okay with my use of drugs (other than alcohol)	51.7	43.4	47.6
There's nothing wrong with people using drugs (other than alcohol) as long as they are in control of their use	54.3	43.2	48.8
If people are drinking at a party, I have more fun if I drink too	60.3	43.1	51.8
I think that using alcohol is more acceptable than using other drugs	73.9	72.6	73.3
There's nothing wrong with people using alcohol as long as they are in control of their use	83.5	79.1	81.3
My friends are okay with my use of alcohol	83.4	79.9	81.6
Alcohol can be as dangerous to use as many other drugs	81.2	86.6	83.9

Further Analysis

It is anticipated that a number of detailed reports will be produced and distributed once more detailed analysis of this data is conducted. These subsequent reports will focus on at least four distinct areas.

First, further analysis is being conducted to determine the variance between student perceptions of risk associated with particular substances and risk levels based on more objective criteria. This holds some promise for prevention activities that target areas of risk under-and over-estimation among youth. Further analysis is also being conducted into the extent that youth take perceived risk level into account when making decisions about the use of alcohol and other drugs.

Second, a more comprehensive analysis will be conducted on intentions reported by students with respect to future substance use and gambling. It will be useful to examine whether these intentions are linked with current alcohol and drug use levels. There are also important questions relating to whether intentions to use drugs are associated with intentions to use alcohol. The answers could inform the design of prevention and rehabilitation programs.

Third, the relationship of student attitudes (question 8 on the survey) to alcohol and drug use needs to be explored in more detail. More liberal attitudes towards alcohol and drug use are found in the 2001 survey, compared with the 1997 survey. It remains to be demonstrated whether this attitudinal change is also related to the specific changes in overall alcohol and drug use that have been observed.

Finally, an over-riding question needs to be answered; "What best predicts alcohol and drug use among high school students?" Further analysis will be conducted in order to weigh the relative importance of the factors described in this report. The implications for prevention and rehabilitation programming are significant. If attitudes are found to be the best indicator of use, then changing attitudes is the area to focus on with regards to changing behaviour. On the other hand, if friends' perceptions about alcohol and drug risk are more closely associated with levels of use, then peer counselling may be a more useful approach to intervention.

Appendix A

Number of questionnaires returned, by school

School	Area	Returned
Arborg Collegiate	Rural	123
Arthur Meighen High School	Rural	159
Boissevain School	Rural	119
Carberry Collegiate	Rural	127
Carman Collegiate	Rural	141
Crocus Plains High School	Brandon	186
Dakota Collegiate	Winnipeg	262
Dauphin Regional High School	Rural	191
Edward Schreyer School	Rural	156
Frontier Collegiate	Rural	39
Garden City Collegiate	Winnipeg	175
Gimli High School	Rural	141
Gordon Bell High School	Winnipeg	88
Hapnot Collegiate	Rural	168
Kildonan East Collegiate	Winnipeg	221
Killarney School	Rural	145
Lac du Bonnet School	Rural	102
Margaret Barbour Collegiate	Rural	149
Morden Collegiate	Rural	156
Neelin High School	Brandon	89
Neepawa Collegiate	Rural	154
Portage Collegiate	Rural	202
R.B. Russell Vocational School	Winnipeg	77
R.D. Parker Collegiate	Thompson	220
Riverton Collegiate	Rural	88
Souris School	Rural	72
Ste. Rose Collegiate	Rural	93
Stonewall Collegiate	Rural	245
Swan Valley Regional Secondary School	Rural	116
Teulon Collegiate	Rural	136
Vincent Massey High School	Brandon	224
Warren Collegiate	Rural	116

Appendix B

Substance Profiles

The following profiles of selected substances have been adapted from the Health Canada publication: Straight Facts About Drugs and Drug Abuse (2000). We provide this information here for the benefit of those readers less familiar with one or more of the substances discussed in the report.

Alcohol

Alcohol affects the central nervous system in proportion to the amount of alcohol in bloodstream. Usual effects of small doses are euphoria, drowsiness, dizziness, flushing, release of inhibitions and tensions. Larger doses produce slurred speech, staggering, double vision, stupor. Alcohol, even in fairly low doses, impairs driving or the operation of complex machinery. In combination with other drugs, small doses of alcohol may produce exaggerated effects. A "hangover" with headache, nausea, shakiness and vomiting may begin 8 to 12 hours after a period of excessive drinking. Very large doses can cause death by blocking the brain's control over respiration.

Regular consumption of more than two drinks a day may gradually bring about liver damage, brain damage, heart disease, certain types of cancer, blackouts (loss of memory), impotence, reproductive problems, ulcers, and disorders of the pancreas. Chronic heavy use may result in disruptions of the drinker's social, family and working life. Consumption of alcohol during pregnancy may result in babies with alcohol-related pre- and postnatal developmental and growth delays, learning and behavioural disorders, and other CNS problems and physical abnormalities. Since there is no definite information regarding a safe quantity of alcohol use during pregnancy, the prudent choice for women who are or may become pregnant is to abstain from alcohol.

Regular use induces tolerance, making increased doses necessary to produce desired effect. In the case of chronic use, people may drink steadily without appearing to get drunk. Their condition may go unrecognized, even by themselves for some time. Chronic drinkers are likely to become physically and psychologically dependent. Withdrawal symptoms may range from jumpiness, sleeplessness, sweating, nausea and vomiting, to tremors, seizures, hallucinations and even death.

Cannabis (also Hashish and Hash Oil)
marijuana, marihuana
pot, grass,
weed, reefer, ganja,
joint

Effects of smoking are felt within a few minutes and last two to four hours. Effects from ingestion (e.g., eaten in baked or cooked foods) appear more gradually and last longer, and the person may feel dull and sluggish for some time afterwards. The person feels calm, relaxed, talkative and sometimes drowsy. Concentration and short-term memory are markedly impaired, and sensory perception seems enhanced, colours are brighter, sounds are more distinct, and the sense of time and space is distorted. Appetite increases, especially for sweets. Some people withdraw, or experience fearfulness, anxiety, depression; a few experience panic, terror or paranoia, particularly with larger doses. Some experience hallucinations with larger doses and symptoms worsen in persons with psychiatric disorders, particularly schizophrenia.

Physical effects include impaired coordination and balance, rapid heartbeat, red eyes, dry mouth and throat. Usual doses impair motor skills; especially when used in combination with alcohol; cannabis use before driving is particularly dangerous. THC, the active ingredient, has been detected in many bodies of fatally-injured drivers and pedestrians in Canada and the United States.

Signs of chronic, heavy use may include decreased motivation and interest, as well as difficulties with memory and concentration. These problems tend to clear when regular use stops. However, there is increasing research evidence of lasting harmful effects on mental function in some people. The respiratory system is damaged by smoking; a single joint of marijuana yields much more tar than a strong cigarette. Tar in cannabis smoke contains higher amounts of cancer-producing agents than tar in tobacco smoke. Studies suggest that developmental delays may occur in children whose mothers used drugs heavily during pregnancy.

There is some evidence that tolerance develops in regular high-dose users. Psychological and physical dependence on cannabis can occur in people who use heavily or regularly. Withdrawal symptoms include anxiety, irritability, sleeping problems, sweating and loss of appetite.

Club Drugs

Flunitrazepam,
and any salts or
derivatives thereof
Rohypnol®
roofies, rope, the forget pill

Rohypnol is an extremely potent benzodiazepine, which produces drowsiness, dizziness, memory loss, muscle relaxation, impaired thinking and motor coordination. It can also produce aggressive behaviour. It is absorbed very rapidly after oral administration with effects occurring after about 20 to 30 minutes. It has been associated with date rape cases because it produces sedation and memory loss. Since it is odourless and tasteless, the victim may have no idea that anything has been added to his/her drink. The amnesia produced by Rohypnol ("the forget pill") means a rape victim may not remember the circumstances of the sexual assault or how the drug was taken. Combined with alcohol or other CNS depressants, the effects of Rohypnol can be dangerously increased.

Like other benzodiazepines, regular use can induce tolerance making increased doses necessary to produce the desired effect.

Rohypnol have been seized by the police in Canada. Its use has been associated with "date rape" when it is added to the victim's drink to lower inhibitions and reduce memory of the sexual assault.

GHB, and any salts
thereof (gamma-hydroxybutyrate)
liquid ecstasy, liquid X,
grievous bodily harm,
Scoop

Effects of lower doses may include lowered inhibitions, euphoria, calmness progressing to drowsiness, dizziness and amnesia. Higher doses may produce confusion, hallucinations, nausea, vomiting, diarrhea, tremors, combative and self-injurious behaviours, seizures, shortness of breath, loss of consciousness and coma. GHB is currently circulating at dances and raves, and is often used in conjunction with alcohol, which increases the degree of disinhibition and the risk of central nervous system and respiratory depression. GHB has been used to aid sexual assaults on women.

Withdrawal symptoms have been reported after chronic high-dose use.

Cocaine
C, coke, snow, nose
candy, crack

Effects resemble those of amphetamines with a shorter duration. The person feels euphoric, energetic, alert; has a rapid heart beat and breathing, dilated pupils, sweating, pallor, and decreased appetite. Large doses can cause severe agitation, paranoid thinking, erratic or violent behaviour, tremors, uncoordination, twitching, hallucinations, headache, pain or pressure in the chest, nausea, blurred vision, fever, muscle spasms, convulsions and death. Impurities in street cocaine may produce a fatal allergic reaction. People may experience depression, extreme tiredness and stuffy nose as a "hangover" from cocaine. The use of "crack" produces immediate and very intense effects.

High-dose, chronic users, who alternate cocaine "binges" with crashes (periods of abstinence) may show mood swings, restlessness, extreme excitability, restlessness, sleep disorders, suspiciousness, hallucinations and delusions, eating disorders, weight loss, constipation and impotence. Characteristic signs of chronic cocaine sniffing are stuffiness and runny nose, chapped nostrils, perforation of nasal septum. Cocaine abuse is also associated with cardiac arrhythmias, myocardial infarctions, strokes, seizures and sudden deaths. People who inject cocaine are at risk for HIV and hepatitis. Heavy use of cocaine by pregnant women is associated with reduced fetal weight and an increased risk of miscarriage, stillbirth, premature birth and malformation. Newborns exposed to cocaine in the uterus may also experience abnormal sleep patterns, poor feeding and irritability for several days or weeks after birth.

Chronic use results in tolerance. Cocaine can produce very powerful psychological dependence leading to extremely compulsive patterns of use. In particular, the dependency-producing properties of cocaine are believed to be more powerful than any other psychoactive drug. Physical dependence may also develop. Withdrawal symptoms may include fatigue, long but disturbed sleep, strong hunger, irritability, depression, violence.

Crystal (meth-amphetamine) and Stimulants
speed, meth, ice, crank

Effects include increased alertness and energy, a feeling of well-being, decreased appetite, rapid heart beat and breathing, increased blood pressure, sweating, dilated pupils, and dry mouth. A person may become talkative, restless, excited, feel powerful, superior, aggressive, hostile or behave in a bizarre, repetitive fashion. Very large doses produce flushing, pallor, very rapid or irregular heart beat, tremors, severe paranoia, frightening hallucinations. Death can result from use as a consequence of burst blood vessels in brain, heart failure, very high fever. Other secondary effects include increase in violent behaviour, accidental or otherwise, is the leading cause of amphetamine-related deaths.

Chronic heavy users may develop malnutrition and amphetamine psychosis, a mental illness similar to paranoid schizophrenia. They may be prone to violence. Impurities injected with the drug can block or weaken small blood vessels. Kidney damage, lung problems, stroke or other tissue injury can result. Instances of withdrawal symptoms among newborn infants of mothers using amphetamines have been reported.

Although chronic use results in tolerance to the mood-elevating effects of amphetamines, tolerance does not appear to develop to the beneficial effects in treatment of attention-deficit hyperactivity disorder or narcolepsy. Like cocaine, amphetamines can produce very powerful psychological dependence leading to compulsive patterns of use.

Although major physical signs of withdrawal do not occur after chronic high-dose users abruptly discontinue amphetamine use, they may experience extreme fatigue and prolonged but disturbed sleep, and subsequently, irritability, tiredness and depression.

Ecstasy (MDMA)
(3,4-methylenedioxy-N
-methylamphet-amine)
(3,4-methylenedioxy-m
ethamphetamine), *Euphoria, X,*
XTC, Adam

A hallucinogen with stimulant properties which can produce feelings of euphoria, pleasure, empathy and sociability, as well as confusion, depression, sleep problems, anxiety, panic attacks, blurred vision, nausea, muscle tension, teeth-clenching, faintness, chills, sweating and increased heart rate and blood pressure. Higher doses produce distortions in perception, thinking and memory, hallucinations and, in some people, anxiety and depression.

Deaths as a result of kidney and/or heart failure due to dehydration or hyperthermia have occurred in the context of raves or dances.

Some animal research indicates repeated use can cause brain damage. Although insufficient research has been carried out, it seems that tolerance to MDA does not develop. Chronic users may become psychologically dependent. MDA is not known to cause physical dependence.

Inhalants
(volatile solvents)
sniff

Effects include feelings of euphoria, light-headedness, exhilaration, vivid fantasies, and sometimes recklessness and feelings of invincibility. Depending on the type of inhalant and method of use, possibly irritation and watering of the eyes, sneezing, coughing and nasal inflammation may occur. Inhalants enter the bloodstream from the lungs and then go to other organs, particularly the brain and liver. Breathing, heart beat and other body functions are slowed down. If the person passes out with a plastic bag over the nose and mouth, death from suffocation can occur. Death can also occur if the person is startled or engages in strenuous activity while intoxicated. There are also situational hazards such as explosions, burns and aspiration of foreign particles or objects into the lungs.

Effects include pallor, fatigue, forgetfulness, inability to think clearly, tremors, poor coordination and difficulty walking, thirst, weight loss, depression, irritability, hostility, and paranoia. Kidney, liver and brain damage may occur. It is not known to what extent the damage is reversible. Simultaneous alcohol consumption may compound the damage. Elevated blood-lead levels and consequent brain damage have been found as a result of chronic sniffing of leaded gasoline.

Regular use induces tolerance, making increased doses necessary to produce the desired effect. Psychological and physical dependence can develop. Withdrawal symptoms include anxiety, depression, irritability, dizziness, tremors, nausea, abdominal pains and headaches.

LSD, and any salts thereof (Lysergic acid diethylamide) *acid, blotter*

Effects are felt within an hour, and last 2 to 12 hours. Perception intensifies, colours appear brighter, objects more sharply defined or distorted. Possible changes in the perception of time and distance. A person may feel the body as light, heavy or distorted. Thinking and concentration are difficult and short-term memory is impaired. Extreme mood swings, including joy, inspiration, depression, anxiety, terror, aggression can occur. There are no known deaths directly caused by overdose, but drug-induced confusion has caused accidental deaths.

Decreased motivation and interest, or prolonged depression and anxiety. LSD high may spontaneously recur days, weeks or even months later (called "flashback"). Use during pregnancy may be related to increased incidence of spontaneous abortion or fetal abnormality.

After using LSD, user must abstain for several days to regain sensitivity. This tolerance crosses over to mescaline and psilocybin. Chronic users may become psychologically dependent. LSD does not cause physical dependence.

Psilocybin, and any salts thereof (occurs together with psilocin in some mushrooms)
magic mushrooms, shrooms

Effects are felt after about half an hour, last several hours, and include sensations of relaxation or fatigue, separation from surroundings, heaviness or lightness. Larger doses produce perceptual distortions, dizziness, abdominal discomfort, numbness of the mouth, nausea, shivering, yawning, flushing and sweating. There are no known deaths directly caused by overdose, but drug-induced hazardous behaviours have occurred in some individuals.

These drugs may precipitate psychosis in vulnerable users.

After using mescaline or psilocybin, user must abstain from both for several days to regain sensitivity. This tolerance crosses over to LSD. Chronic users may become psychologically dependent. Mescaline and psilocybin are not known to cause physical dependence.